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SODA FOUNTAIN-LUNCHEONETTE EQUIPMENT AND APPURTENANCES.
NATIONAL SANITATION FOUNDATION STANDARD NO. 1.
NATIONAL SANITATION FOUNDATION, ANN ARBOR, MICH.

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DESCRIPTORS- *EQUIPMENT STANDARDS, *FOOD HANDLING FACILITIES, *FOOD SERVICE, *SANITATION, SANITATION IMPROVEMENT,

THIS STANDARD OF SODA FOUNTAIN-LUNCHEONETTE EQUIPMENT IS THE FIRST IN A SERIES OF NATIONAL SANITATION FOUNDATION STANDARDS. THESE STANDARDS ARE ISSUED IN RECOGNITION OF THE LONG FELT NEED FOR A COMMON UNDERSTANDING OF THE PROBLEMS OF SANITATION INVOLVING INDUSTRIAL AND ADMINISTRATIVE HEALTH OFFICIALS WHOSE OBLIGATION IT IS TO ENFORCE REGULATIONS. THREE REQUIREMENTS ARE GIVEN AS PRIME FACTORS REQUIRED FOR GOOD SANITATION--(1) GOOD SANITATION PERSONNEL, (2) A JOINT EFFORT OF PUBLIC HEALTH, INDUSTRY, AND BUSINESS, AND (3) THE EDUCATION AND UNDERSTANDING OF THE PUBLIC. THIS STANDARD COVERS FOOD SERVICE EQUIPMENT COMMONLY USED IN SODA FOUNTAINS, HOT AND COLD FOOD UNITS AS WELL AS OTHER FOOD HANDLING AND PROCESSING EQUIPMENT, SUCH AS TABLES AND THEIR COMPONENT PARTS, COUNTER SHELVES, SINKS AND RANGE HOODS. IT INCLUDES THE BASIC PRINCIPLES TO ACHIEVE EASY CLEANABILITY AND FOOD PROTECTION. AS A GUIDE THIS STANDARD IN NO WAY RESTRICTS OR LIMITS NEW DESIGN, PROVIDED THIS DESIGN COMES UP TO THE MINIMUM SPECIFICATIONS. FIVE BASIC AREAS OF CONCERN ARE LISTED AS--(1) GENERAL COVERAGE, (2) DEFINITION OF SANITATION TERMINOLOGY, (3) EQUIPMENT MATERIALS AND SURFACES, (4) DESIGN AND CONSTRUCTION, AND (5) ITEMS OF SPECIAL SANITARY SIGNIFICANCE. (RH)

NATIONAL SANITATION FOUNDATION

STANDARD NO. 1

SODA FOUNTAIN - LUNCHEONETTE EQUIPMENT & APPURTENANCES

Prepared By

The Joint Committee on Food Equipment Standards

As Amended

April 1967

The National Sanitation Foundation

Headquarters

2355 West Stadium Boulevard

Ann Arbor, Michigan

January 1968

This is the first in a series of Nationally uniform sanitation standards established by the National Sanitation Foundation. Subsequent to Standard No. 1 the following were developed.

Standard No. 2 - Food Service Equipment

Standard No. 3 - Spray- Type Dishwashing Machines (Includes Dish and Glass Washing Equipment)

Standard No. 4 - Gas and Electric Commercial Cooking and Warming Equipment

Standard No. 5 - Gas and Electric Commercial Hot Water Generating Equipment

Standard No. 6 - Dispensing Freezers

Standard No. 7 - Commercial Refrigerators and Storage Freezers

Standard No. 8 - Commercial Powered Food Preparation Equipment

Standard No. 9 - Relating to Diatomite Type Filters for Swimming Pools

Standard No. 10 - Relating to Sand Type Filters for Swimming Pools

Standard No. 11 - Relating to Recessed Automatic Surface Skimmers for Swimming Pools

Standard No. 12 - Automatic Ice-Making Standard

Standard No. 14 - Thermoplastic Materials, Pipe, Fittings, Valves, Traps and Joining Materials

Standard No. 15 - Thermoset Plastic Pipe, Fittings, Valves, Tanks, Appurtenances, Joining Materials and Thermoset Plastic Coatings for Use in Potable Water Supply Systems

Standard No. 16 - Film Badge Services

Standard No. 17 - Relating to Centrifugal Pumps for Swimming Pools

Standard No. 18 - Relating to Manual Food and Beverage Dispensing Equipment

Standard No. 19 - Relating to Adjustable Output Rate Chemical Feeding Equipment for Swimming Pools

Standard No. 20 - Relating to Commercial Bulk Milk Dispensing Equipment and Appurtenances

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Criteria C-1 - Food Vending Machine

Criteria C-2 - Evaluation of Special Equipment and/or Devices

Criteria C-4 - Reinforced Plastic Tanks and/or Plastic Appurtenances for Water Softening

Criteria C-5 - Special Criteria for Cartridge Type Drinking Water Filters

Criteria C-6 - Basic Criteria for the Construction of Continuous Cloth Towel

Criteria C-7 - Plastic Lined Asbestos-Cement Pipe and Couplings for Sewers

Criteria C-8 - Pitless Well Adapters

Cost of Standard No. 1 - Mimeographed copies available at 35¢ per copy.

PREFACE

This Standard, relating to Soda Fountain Luncheonette Equipment and Appurtenances, is one in a series of NSF Standards. These Standards are issued in recognition of the long-felt need for a common understanding of the problems of sanitation involving industry and administrative health officials whose obligation it is to enforce regulations.

Sanitation in the United States, or in any country, can be as good or as bad as:

1. The people who work at it, i.e., sanitation personnel
2. The joint effort of public health, industry, and business
3. The education, or the understanding, of the public

It is a mistake to think of any one of the three factors as more or less important than the other--as much a mistake as saying that ignition is more or less important than carburetion in the operation of any engine. How the three factors are developed and coordinated will determine the success or failure of national, state, and local efforts to improve sanitation.

The National Sanitation Foundation offers the key to securing the much needed uniformity in the field of sanitation. The aim also is to improve environmental health as well as sanitation.

This revised Standard has gone through many drafts during the years of its preparation and use. It is the result of considerable study on the part of health men, consultations with technical representatives of industry, and field investigations of the National Sanitation Foundation's staff.

The improvement of environmental health and sanitation and the establishment of uniform requirements have been the primary aim in the preparation of this material. It is recognized that continued scientific progress will require changes in Standards over long periods.

The adoption of these Standards offers health officials an opportunity to present a united front in securing the basic equipment to make safe and clean food service possible as demanded by the general public. It gives users of such equipment the assurance of meeting health standards and passing inspection. Also, this gives manufacturers the advantage of applying uniform construction methods with confidence that equipment conscientiously built to meet these Standards will be generally acceptable.

Finally, as an aid to all concerned in recognizing approved equipment, the National Sanitation Foundation has established a policy under which the use of its insigne, nSf, will be authorized on equipment of types that meet the standard herein established for Soda Fountain Luncheonette Equipment and Appurtenances.

Permission to use the National Sanitaiton Foundation Seal of Approval will be granted only after an investigation of the applicant's manufacturing methods and, where deemed necessary, tests of equipment show compliance with the Standard. Continuance of the agreement is dependent upon continued evidence of compliance with the Standard upon periodic re-examination of equipment in factory and field.

Our sincere appreciation is extended to all members of the committee herein listed who so willingly devoted their time to the development of this and other Standards. Special credit and thanks are due the members of the Joint Committee on Food Equipment Standards for the long hours spent in review, discussion and correspondence as well as to the Industry Advisory Committee for its untiring efforts through the years in which this work has been in progress.

Henry F. Vaughan, Dr. P. H., President
The National Sanitation Foundation

The National Sanitation Foundaiton

Purpose and Organiza tion

In 1944, a small group of industrial and public health leaders were discussing mutual problems involving sanitation. They realized that more solutions to modern sanitation problems affecting industry and public health could be developed through mutual understanding and cooperative action than through ordinances, inspections and law enforcement alone.

It occurred to them that great strides could result from the creation of an independent but authoritative liaison organization which would be a clearing house through which business and industry and health authorities could work, together for the solution of their common problems and for the common good.

They foresaw that, through such an organization, they could jointly seek new facts in sanitary science to bring it up to date with technological advances of industry and with modern problems of the health officer in the field.

They could sponsor educational programs and sanitation services which would win everyone's cooperation in a nation-wide program designed to promote superior sanitation in modern products and services, and in the daily lives of the people.

Thus was born the National Sanitation Foundation. The Foundation is a non-profit, non-commercial organization seeking solutions to all problems involving cleanliness. It is dedicated to the prevention of illness, the promotion of health and the enrichment of the quality of American living through the improvement of the physical, biological and social environment in which we live today.

Distinguished representatives of the public health profession, of business and industry, and of public serve on its Board of Trustees, Council of Public Health Consultants Industrial Advisory Board and various committees.

The National Sanitation Foundation is endorsed by health agencies, both official and voluntary. More than 350 industrial and business firms have contributed nearly three quarters of a million dollars to its support. The Foundation is now in its twentieth year of operation.

SUGGESTIONS CONCERNING REGULATIONS

GOVERNING THE SANITATION OF

SODA FOUNTAIN AND LUNCHEONETTE EQUIPMENT

It is strongly recommended that these Standards representing a cross-section of opinion of workers in the field of environmental health be accepted and followed by enforcement officials. However, their incorporation in detail into local sanitary codes does not appear to be necessary and is likely to be cumbersome.

In municipalities, counties, and health districts in which the adoption of legislation by reference is considered legal, the following regulation should serve to implement the use of the Standard for Soda Fountain-Luncheonette Equipment and Appurtenances.

ALL SODA FOUNTAIN - LUNCHEONETTE EQUIPMENT & APPURTENANCES INSTALLED ON OR AFTER _____ IN PUBLIC FOOD SERVICE ESTABLISHMENTS IN THIS JURISDICTION SHALL MEET THE NATIONAL SANITATION FOUNDATION STANDARDS FOR SUCH EQUIPMENT.

or, if considered desirable, it will be simpler to adopt the following more general regulation applying to all standards in the food service field:

ALL EQUIPMENT INSTALLED ON OR AFTER _____ FOR USE IN PREPARATION OF FOOD IN FOOD SERVICE ESTABLISHMENTS IN THIS JURISDICTION SHALL MEET NATIONAL SANITATION FOUNDATION STANDARDS.

In fact the adoption of this broad regulation will save time as well as advertising and printed costs as, no doubt, many different standards will be adopted. Otherwise each standard will require the adoption of a specific regulation. Wherever the legality of adopting legislation by reference is not recognized, delete the portion of either of the above regulations after the word "SHALL" and substitute therefore the words "BE OF A TYPE APPROVED BY THE HEALTH OFFICER." The health officer may be guided by the National Sanitation Standards in his approval of types.

COMMITTEES PARTICIPATING IN THE PREPARATION OF THE STANDARD

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C. W. Clark, State Department of Health, Portland, Oregon, Chairman, Committee on Food Equipment, National Association of Sanitarians (Dr. R. V. Stone became chairman in 1951)

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SODA FOUNTAIN AND LUNCHEONETTE EQUIPMENT

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NATIONAL SANITATION FOUNDATION

Standard No. 1

Relating to

SODA FOUNTAIN AND LUNCHEONETTE EQUIPMENT AND APPURTENANCES

SECTION 1. GENERAL

1.00 COVERAGE: This Standard covers equipment commonly known to the trade as soda fountain and luncheonette equipment. It includes creamers and bobtails, cafeteria units, hot and cold food units, and other food handling and processing equipment, such as tables of all kinds and their component parts, counters, shelves, sinks and hoods. It includes the basic principles of design, construction and performance as is necessary to achieve easy cleanability, foc protection and freedom from harborages which are applicable to equipment commonly known as soda fountain and luncheonette equipment and their component parts or appurtenances. This Standard shall serve as a guide and in no way shall restrict new design, provided the design does not fall below the minimum specifications of this Standard.

1.01 MINIMUM REQUIREMENTS: These are minimum requirements and variations may be approved when they tend to make units more resistant to wear, corrosion, or more easily cleanable. Units which have components, or parts, which are covered under existing NSF Standards or Criteria, shall comply with the applicable requirements thereof.

1.02 ALTERNATE MATERIALS: Whenever specific materials are mentioned, it is understood that the use of materials proven to be equally satisfactory from the standpoint of sanitation and protection of food is acceptable.

1.03 STANDARD REVIEW: A complete review of the Standard shall be conducted at intervals of not more than three years to determine what changes, deletions or additions if any, are necessary to maintain current and effective requirements consistent with new technology and progress. These reviews shall be conducted by appropriate representatives from the industry, public health and user groups. Final adoption of revision shall be in accordance with the procedures established by the National Sanitation Foundation Joint Committee on Food Equipment Standards.

SECTION 2. DEFINITIONS

GENERAL:

2.00 ACCESSIBLE: Accessible shall mean readily exposed for proper and thorough cleaning and inspection with the use of only simple tools, such as a screw driver, pliers, or open-end wrench.

2.001 READILY ACCESSIBLE: Readily accessible shall mean exposed, easily exposed without the use of tools, for proper and thorough cleaning and visual inspection.

2.01 CLEANING: The term cleaning shall mean the physical removal of residue of dirt, dust, foreign material or other soiling ingredients or materials.

2.011 READILY (OR EASILY) CLEANABLE: Readily (or easily) cleanable shall mean readily accessible and of such material, finish and so fabricated that soil may be effectively removed by normal cleaning methods.

2.02 CLOSED: Spaces required to be "closed" shall have no openings large enough for the entrance of insects or rodents. An opening of 1/32 inch or less shall be considered closed.

2.03 CORROSION-RESISTANT: "Corrosion-resistant" materials are those which maintain their original surface characteristics under prolonged influence of the foods to be contacted, the normal use of cleaning compounds, and sanitizing solutions, and other conditions of the use environment.

2.04 FOOD: Shall mean any raw, cooked, or processed edible substance, beverage, or ingredient used or intended for use or for sale in whole or in part for human consumption.

2.05 FROZEN DESSERTS: A frozen dessert is any frozen or partially frozen combination of two or more of the following: milk or milk products, eggs or egg products, sugars, water, fruit or fruit juices, candy, nut meats, or other harmless and wholesome food products, flavors, color, or harmless stabilizer, and shall be deemed to include ice cream, frozen custard, ice milk, milk sherbet, ices, and other similar products.

2.06 REMOVABLE: Removable shall mean capable of being taken away from the main unit with the use of only simple tools, such as a screw driver, pliers, or open-end wrench.

2.061 READILY (OR EASILY) REMOVABLE: Readily (or easily) removable shall mean capable of being taken away from the main unit, without the use of tools.

2.07 SANITIZING: Shall mean effective bactericidal treatment of clean surfaces of equipment and utensils by a process which has been proven effective.

2.08 SEALED: Spaces required to be "sealed" shall have no openings that will permit the entry of insects, rodents, dirt or moisture seepage.

2.09 SMOOTH: The word "smooth" is used to define a surface free of pits and inclusions and having a cleanability equal to the following:

Food Zone: Number 3 (100 grit) finish on Stainless Steel.

Splash and Non-Food Zone: Commercial grade hot rolled steel free of visible scale.

2.10 TOXIC: The word "toxic" shall refer to the adverse physiological effect to man.

2.11 ZONES (CONTACT SURFACES):

2.111 FOOD ZONE: The term "food zone" or "food contact surfaces" includes those surfaces of the equipment with which the food normally comes in contact, and those surfaces with which the food is likely, in normal operation, to come into contact and drain back onto surfaces normally in contact with the food or into the food.

2.112 SPLASH ZONE: The terms "splash zone" or "splash contact surfaces" shall mean those surfaces, other than food contact surfaces, which are subject to routine splash, spillage, and contamination during normal use.

2.113 NON-FOOD ZONE: The terms "non-food zone" or Non-food contact surface" shall mean all exposed surfaces not in the food and splash zones.

SPECIFIC ITEMS:

2.12 BOBTAIL: A unit designed for the dispensing of carbonated beverages and milk drinks; including draft arms, water coolers, syrup containers and cold storage compartment, but having no ice cream storage. Built both with and without integral sink section.

2.13 CREAMER: (Also known as a Cooler Box or Fountain Unit.) This term is used to describe the unit of a soda fountain which has space for storing frozen desserts, plus facilities for cooling and serving soda water. Built with or without a sink section as an integral part of the unit.

2.14 DIPPER WELL: A dipper well is a container or receptacle which is equipped with running water and a drain and intended for the storage of frozen dessert dippers.

2.15 DISPLAY CASE: Any enclosed case used for the purpose of displaying and/or dispensing unpackaged food is considered to be a display case.

2.16 ICE CREAM CABINET: A mechanically refrigerated unit used for storing and dispensing frozen desserts.

NOTE: When an ice cream cabinet is used as an integral part of a soda fountain for the purpose of dispensing frozen desserts or if there is a continuous work surface between a frozen dessert cabinet and other soda fountain units, the assembly shall be considered a soda fountain unit.

2.17 INSET: An inset is a pan or container, intended to contain food, which is used in connection with a hot (wet or dry) or cold display and/or serving section or sandwich unit.

2.18 OVERFLOW: An overflow is a device, the function of which is to maintain a maximum water level.

2.19 RAISED RIMS: A raised rim is an elevation around the openings to food compartments.

2.20 SINK SECTION:

2.201 APRON: The term apron means the facing on the dispenser side of the unit.

2.202 BASIN: Basin is a term which is known in the trade as a sink.

2.203 BASIN OR SINK OUTLETS: Basin or sink outlets serve to drain water from these units to the sewer.

2.204 CORRUGATION: Corrugation is a type of fluted or crimped surface which aids in the draining of water from the surface.

2.21 SODA FOUNTAIN: A generic term referring to a complete unit equipped for the storing and dispensing of frozen desserts and carbonated beverages. Where food also is served, the equipment is referred to as a "Luncheonette Fountain."

2.22 SODA FOUNTAIN - COMPONENT PARTS OF:

2.221 BREAKER STRIP: A breaker strip is made of a non-conductor. The breaker strip is inserted between the inner and outer liners of refrigerated compartments.

2.222 COOLING COILS: Cooling coils are elongated, spiral coils or similar devices containing soda and plain water, which are in a refrigerated area to cool the liquid in the coils.

2.223 DRAFT ARM: A draft arm is a unit used to dispense soda, plain water or mixed beverages.

2.224 DRAFT STATIONS: A draft station is an assembly having a drip plate and a drip pan together with draft arms.

2.225 FLASH OR INSTANTANEOUS COOLERS: Flash or instantaneous coolers are mechnically refrigerated units for cooling soda and plain water.

2.226 ICE CREAM COMPARTMENTS: That part of the unit used for the refrigeration and storage of frozen desserts.

2.227 ICE CREAM SLEEVE: An ice cream sleeve is a compartment in which frozen dessert is stored and refrigerated.

2.2681 LID: A lid is a device used to close access openings.

2.2682 LINING: A lining is the interior surface of a compartment.

2.228 ICE PAN: An ice pan is a container used for the storing of edible ice.

2.23 SPLASH BACK: Splash back is the vertical facing of a unit above the working surface of the unit--designated as "rear" and "end" splash. This area is also known as "flashing" or "splash board."

2.24 SYRUP RAIL: The syrup rail is a refrigerated section of a creamer or bobtail where syrup pumps and jars are stored.

2.25 URN STAND: The term "urn stand" shall mean a stand, fixed, portable, or wheeled, intended to support a coffee, tea or water urn. The term shall not include tables or stands on which small self-contained coffee brewers are mounted.

2.26 WATER BATH: The water bath is a body of water used as a secondary cooling medium in the cooling of plain and soda water.

2.27 WHEELED FOOD SERVICE EQUIPMENT: Wheeled food service equipment is that which is placed on casters or wheels and can be easily moved for auxiliary food processing or service, but shall not include licensed motor vehicles.

SECTION 3. MATERIALS

3.00 GENERAL: Only such materials shall be used in the construction of soda fountain, luncheonette equipment and/or appurtenances, as will withstand wear, penetration of vermin, the corrosive action of foods or beverages, cleaning compounds and such other elements as may be found in the use environments and will not impart an odor color, toxic material or taste to food.

3.01 FOOD CONTACT SURFACES: Surface materials in the food zone shall be smooth, corrosion-resistant, non-toxic, stable, and non-absorbent under use conditions and shall not impart odors, color and taste, nor contribute to the adulteration of food.*

3.02 SPLASH CONTACT SURFACES: Splash contact surfaces shall be smooth, and of an easily cleanable and corrosion-resistant material, or shall be rendered corrosion-resistant with a material which is non-cracking, non-chipping and non-spalling. Paint shall not be used, except as provided in Item 4.13 and 5.082.

3.03 NON-FOOD CONTACT SURFACES: Non-food contact surfaces shall be smooth and of corrosion-resistant material or shall be rendered corrosion-resistant or painted. Lead base paints shall not be used. Parts of the equipment directly over and adjacent to the food zone and parts having both food contact and non-food contact surfaces shall have the non-food contact surfaces rendered corrosion-resistant and coated. the coating shall be of a non-cracking, non-chipping and non-spalling type.**

*The requirements of the Federal Food, Drug and Cosmetics Act, as amended, shall be used as a general guide.

**Reference test procedures

3.04 SOLDER: Solder in the food zone shall conform to the following:

3.041 SOFT SOLDER: Soft solder shall be of such formulation as to be non-toxic under use conditions; shall contain at least 50% tin; shall contain no more lead than is necessary under good manufacturing practice; and shall, consistent with good industrial practice in the refining of its constituent elements, be free of cadmium, antimony, bismuth and other toxic materials.

3.042 HARD SOLDER: Hard solder (silver solder), shall be of such formulation as to be non-toxic under use conditions; shall be corrosion-resistant; and shall, consistent with good industrial practice in the refining of its constituent elements, be free of cadmium, antimony, bismuth and other toxic materials.

3.05 PLASTIC RESIN SYSTEMS: Plastic resin systems may be used provided they meet the applicable requirements of Items 3.00, 3.01, 3.02 and 3.03.

3.06 WELDING: When welded seams are used, the weld area and deposited weld material shall be as corrosion-resistant as the parent material.

3.07 GASKETS AND PACKINGS: Gaskets and packings shall be made of materials, such as resilient rubber, rubber-like materials, or plastic. Such materials shall be non-toxic, stable, odor free, non-absorbent and uneffected by exposure to foods and cleaning compound.

3.08 BREAKER STRIPS: Exposed breaker strips shall be made of material which is non-toxic, corrosion-resistant, odor free, non-absorbent and stable.

3.09 SOUND DAMPING MATERIALS: Sound damping materials shall, when applied, comply with the requirements of the zone in which used. The material shall not spall, flake or blister. Non-hardening types are not acceptable.

3.10 SCRAPPING BLOCKS: Scrapping blocks in soiled dish tables shall be of a resilient, grease-resistant material.

3.11 CUTTING BOARDS: Cutting boards shall be of a hard (sugar) maple or pecan. Such boards shall be kiln dried to 6-8% moisture content by weight after conditioning to remove stresses, case hardening and other drying defects, and shall have a weight per cubic foot of not less than 43.4 pounds. Other materials may be used provided they meet the requirements of Item 1.02 and the applicable requirements of 3.00 and 3.01

3.12 DRAWERS: Drawers and containers intended only for utensil storage in fabricated food service equipment, shall meet the material requirements of Item 3.02.* Drawers having food contact surfaces shall meet the requirements of Item 3.01.

3.13 PAINT: Lead base paint shall not be used.

SECTION 4. DESIGN AND CONSTRUCTION

FOOD ZONE:

4.00 GENERAL DESIGN AND CONSTRUCTION: Soda fountain and luncheonette equipment and appurtenances shall be designed and constructed in such a manner as to exclude from the food zone such vermin, dust, dirt, splash and drainage as may be encountered under the intended use conditions; and be easily cleaned, maintained and serviced.

4.01 CLEANABILITY: All food contact surfaces shall be readily accessible and easily cleanable, either in an assembled position or when removed. Demountable parts shall be readily removable.

4.011 In equipment of such design that food contact surfaces are not readily removable, and in-place cleaning is intended, tubing, pipe, fittings, and valves shall be so arranged that cleaning and sanitizing solutions can be circulated under pressure, throughout the fixed system. Such solutions shall contact all interior surfaces. The system shall be self-draining or otherwise completely evacuated. The manufacturer's recommended cleaning procedures shall result in thorough cleaning of the equipment. Soda fountain and luncheonette equipment and appurtenances designed for

*Material requirements for Splash Zone permit the use of galvanized surfaces.

cleaning-in-place shall have a section of the line cleaned-in-place accessible for inspectional purposes or other acceptable inspectional method shall be provided.

4.02 FUNCTION: Soda fountain and luncheonette equipment and appurtenances shall be designed and constructed so that ingredients, or food(s) can be added and the finished food dispensed, removed or served in a sanitary manner.

4.03 CORNERS OR ANGLES--INTERNAL: All internal angles or corners, (of two or more planes at 110° or less) shall have rounded corners and rounded angles wherever it will make cleaning easier. Solder may not be used to effect the desired radius, except as provided in Items 5.111, 5.14 and 5.181. All internal corners, except as provided in Item 4.033, where exposed to unpackaged foods, shall conform with the following:

4.031 An internal angle formed by the intersection of two planes shall have a minimum continuous and smooth radius of 1/8 inch.

4.032 An internal corner formed by the intersection of three planes (at 110° or less) shall have a minimum continuous and smooth radius of 1/4 inch for vertical or horizontal intersection, the alternate intersections being constructed with a minimum continuous and smooth radius of 1/8 inch on all items of equipment used for unpackaged food.

4.033 The following intersections shall be exempt from the provisions of Items 4.031 & 4.032:

a. The juncture between the side walls and ceiling of the liner of glass front refrigerated short term display cases.

b. The juncture between the walls of the base and the ceiling of the liner of backbar, undercounter equipment such as soda fountains, sandwich units, creamers and other refrigerated units.

c. The juncture between a top mounted refrigerated display case and the refrigerated base.

4.04 INTERNAL CORNERS OR ANGLES--OTHER THAN METAL: For materials other than metal, the radii specified in 4.031 and 4.032 shall be effected by use of parent material or by a material which has been proven to be so bonded and otherwise equal, or better than the parent material.

4.05 CORNERS OR ANGLES--EXTERNAL: All exposed external angles and corners are to be sealed and smooth.

4.06 SOLDERING: Whenever solder is used, it shall be securely bonded to the metal so that it will not crack or chip off and the surface shall be smoothed. Flux and catalytic material shall be neutralized and removed.

4.061 The use of "Soft Solder" shall be limited to use in joining metal or sealing structurally sound seams between abutting metal surfaces.

4.07 WELDING: Welded areas included in surfaces requiring routine cleaning as in sinks and in surfaces in contact with food shall be smooth.

4.08 JOINTS AND SEAMS: All joints and seams in the food zone shall be sealed and shall be smooth as the surface being joined. Wherever feasible and practical, equipment parts in the food zone shall be stamped, extruded, formed or cast in one piece.

4.09 FASTENING METHODS: Exposed threads; screw, bolt and rivet heads; nuts; and projecting screw and studs shall be eliminated from food contact surfaces, provided, however, the use of low profile type (Brazier head) rivets, properly affixed and without open joints and seams may be used to attach handles or pots and pans.

4.10 WORKED SURFACES: Food contact surfaces which during the course of fabrication are so worked as to reduce their corrosion-resistant characteristics, shall receive such additional treatment as is necessary to render, or return, them to a corrosion-resistant state.

SPLASH AND NON-FOOD CONTACT SURFACES:

4.11 GENERAL DESIGN AND CONSTRUCTION: Soda fountain and luncheonette equipment and appurtenances shall be designed and constructed in such a manner as to minimize the retention of moisture and dust, the shelter of vermin and dirt, and to facilitate inspection, servicing, maintenance and cleaning.

4.12 JOINTS AND SEAMS: In the splash zone, all joints and seams shall be sealed and made smooth. Joints shall be made in such a manner as to eliminate dirt-catching horizontal ledges. All joints and seams in the non-food zone shall, where exposed to seepage and condensation, be sealed and made smooth.

4.13 FASTENING METHODS: In the non-food zone, exposed threads, projecting screws and studs shall be used only when it has been demonstrated that other fastening methods are impractical and they shall be eliminated from the Splash

Contact Surfaces. Exposed rivets, screw or bolt heads in the splash zone shall be of low profile type such as brazier or modified brazier rivets or pan and oval heads respectively.

4.131 INTERIOR FASTENINGS: In areas subject to cleaning, interior fastenings shall be accomplished in such a manner as to minimize projections, ledges and recesses.

4.14 PAINT: Paint is a satisfactory finish for normal dry surfaces.

4.15 SOLDERING: Whenever solder is used, it shall be securely bonded to the metal so that it will not crack or chip off and the surface shall be smoothed. Flux and catalytic material shall be neutralized and removed.

GENERAL:

4.16 REINFORCING AND FRAMING: Reinforcing and framing members not totally enclosed, or within walls, are to be placed in such a manner as to be easy to clean. All framing and reinforcing members shall be so placed as to eliminate harborage for vermin. The ends of all hollow sections of reinforcing and framing members shall be sealed. Horizontal angle reinforcing and gussets shall not be placed where food or garbage may accumulate thereon. Where angles are used horizontally they shall have one leg turned down wherever the nature of the equipment permits, or shall be formed integral with the sides as for use with removable shelves or for drawer slides. All vertical channel sections shall be either completely closed or open to the floor.

4.17 FIXED PANELS: Where fixed panels are applied to the outside or inside or set into angle or other reinforced body or counter frames, the method of fastening shall be such as to minimize projections and openings.

4.18 REMOVABLE PANELS: Where necessary for inspection and maintenance, easily removable panels shall be provided. They shall be of adequate size to

serve the purpose intended, but otherwise confined in size and so constructed that one person can handle them. Removable panels shall conform with applicable construction requirements for the zone in which they are to be used.

4.19 LININGS: Bottom or gutters of linings in fixtures requiring drainage are to be self-draining.

4.20 FINISHING: Painted finishes may be used in the non-food zone where they improve sanitation by preventing oxidation or condensation. Non-wearing surfaces subject to corrosion that require cleaning shall be rendered corrosion-resistant by plating or painting conforming to the applicable requirements of Items 3.00, 3.01, 3.02 and 3.03.

4.21 LIDS, DOORS, COVERS AND HOODS (SPLASH ZONE): Doors and covers shall be manufactured to conform with standard of manufacture for the cabinet proper and shall be sized to fit and close properly. Doors to enclose openings and provide access to interior compartments shall be fabricated in two basic types of construction; that is, single or double panels with or without intermediate insulation. Sliding doors, when used, shall slide freely and be readily removable. Hinges shall be kept to a minimum in the splash zone.

Hinges shall not be used in the splash zone unless they are so designed and constructed as to minimize leakage and drippage. Hinges required in the splash zone shall be constructed to be cleanable. Lid assemblies shall be free of cracks and crevices or openings (except for leak-proof and drip-proof hinges and at the joints and seams of the breaker strip) and the lid assembly shall be designed for adequate cleaning and sanitizing. Sliding doors and hoods over food compartments shall be designed so as to exclude soil and other contamination from food storage compartments. Hood mountings shall be accessible to cleaning, or mounting shall be easily disassembled for cleaning.

4.211 DOORS--WITHOUT INSULATION: Single panel doors shall be built in such a manner as to minimize the collection of food particles and other foreign matter and preferably without channel sections at the bottom, but if channel sections are so used, they shall be constructed so as to be easily cleanable. (See Item 4.16 REINFORCING AND FRAMING) Double walled doors consisting of face and interior sheets shall be closed around four sides and at corners.

4.212 DOORS--INSULATED: When gaskets are used on insulated doors, they shall be cleanable and easily replaceable. All hollow sections shall be closed and sealed.

4.213 GLASS DOORS: Exposed edges of glass doors shall be protected against chipping by protective channels, or suitable stripping, or non-friable glass, with edges ground smooth. If protective channels are used, they shall be tight fitting.

4.22 DOOR TRACKS AND GUIDES: All bottom tracks and guides for doors shall be built in such manner as to minimize the collection of food particles, condensation, spillage and other foreign matter; and shall be so constructed as to be easily cleanable. Deep type bottom channel tracks shall not be used.

The following are examples of design features to further facilitate cleaning and maintenance:

4.221 Providing clear open slots continuous or at intervals.

4.222 Providing clean-out holes at ends of track or guide bottom.

4.223 Stopping tracks or guides at least 1/2" short of framing at each end.

4.224 Forming tracks or guides integral with interior bottoms and without square corners.

4.225 Providing overhead door suspensions with lower guides which are constructed integral with the bottoms.

4.226 Providing readily removable T strips in channel type bottom tracks.

4.23 EXPOSED EDGES AND NOSINGS: All exposed edges and nosings on horizontal surfaces shall be integral with tops, regardless of profiles, and where exposed to fingers and cleaning they shall be made smooth. Nosings shall be open 3/4 inch or completely closed against the body of the unit on all sides to prevent the harborage of insects. Where the edges of tops or shelves are flanged down and turned back. The return under-flange shall be less than 1/2 inch and be angled down and the space between the top and the flange, shall be not less than 3/4 inch, and the space between the sheared edge and the frame angle or cabinet body shall not be less than 3/4 inch to provide access for cleaning.

4.24 FIELD JOINTS: Where field Joints are required, they shall be made sanitary by use of trim strips, welding, soldering, properly designed draw fastening or other methods acceptable under the provisions of Items 1.01 and 1.02. Such joints shall be smooth and sufficiently strong to insure against breaking open from normally anticipated use.

4.25 OPENINGS AND RIMS (FOOD ZONE): To prevent seepage, all top openings over food zones shall be protected by a raised rim at least 3/16 inch above the level to which liquids may accumulate.

4.26 OPENINGS TO FOOD ZONES: All openings to food zones shall be provided with covers or other equivalent protection, to prevent contamination of the food. Such covering shall be effected in a manner to prevent seepage, condensation or spillage from entering the food zone.

4.261 COVERS AND DOORS: When covers or doors are provided to prevent contamination from reaching the food zone they shall be so designed as to provide a flange which overlaps the opening, and shall be sloped to provide drainage from the cover surface. Any port opening through the covers shall be flanged upward at least 3/16 inch and shall be provided with a cover which overlaps the flange. Covers shall be designed with a sufficient clearance to avoid contact with foods which they cover. All covers are to be readily removable as a unit or in sections. Hinges or pivots shall be designed to be easily cleaned and of simple take apart design and construction. Piano hinges are not permissable in the Food Zone. Sliding or hinged covers, where used, shall be constructed in such a manner as to prevent seepage of liquids, condensation or other foreign materials into the food zone and liquid or solid accumulations on covers from falling into the food zone, when the covers are closed or opened.

4.262 ENTRY PORTS: All joints and seams where piping, thermometers, equipment, rotary shafts, and other functional parts extending into the food zones, shall be closed and sealed at the point of entry, or a properly designed delfecting apron provided.

4.27 OPENINGS TO FOOD WASTE RECEPTACLE: The dish table opening to the garbage receptacle shall have a water tight, turned-down edge extending at least 1/2 inch below the bottom of the table top, or a raised rim at least 3/8 inch above the surface of the table may be used or both may be provided.

4.28 OPENINGS TO FOOD WASTE GRINDER: Food waste grinder cones shall be installed into table tops by continuous welding and made smooth, or in such a manner as to provide an equally effective joint and seam; such as by use of gaskets or soldering of structually sound joints and seams.

4.29 HARDWARE: All hardware shall be smooth, fabricated of material with integral or plated finish easily cleanable and secured so it can be replaced easily when broken or worn out. Hardware shall not have open seams, recesses or unnecessary projections.

4.30 BREAKER STRIPS: Breaker strips shall be installed in such a manner that debris, food particles, water or seepage do not enter between the breaker strip and the capping and/or the liner. They shall have smooth, easily cleanable surfaces with all rough edges removed.

4.31 LEGS AND FEET: Unless the equipment is designed so that it may be placed on a raised island, or sealed to the floor, counter, or table so as to prevent seepage underneath, one or more of the following provisions shall be made for cleaning this area.

4.311 LEGS: The unit shall be mounted on tubular legs of sufficient height to provide a clear space of not less than 6 inches between the lowest horizontal

member of the unit and the floor. Compressor spaces not greater than 24" in width on bobtails, fountains and creamers having a working height of 34" or less, may be exempt from this provision provided the compressor can be pulled out from the unit and the space beneath the compressor and the supporting frame is accessible for cleaning. However in no case shall the lowest horizontal member be closer to the floor than 2 inches. For similar units having working heights in excess of 34 inches but less than 36 inches the clearance between the compressor compartment and the floor shall be increased in an amount equal to the increase in height of the working surface.

4.312 CASTERS, ROLLERS, GLIDERS: The unit shall be mounted on casters, rollers, or gliders of such material, design and construction as to permit its being easily moved by one person, and shall be installed as to be easily cleaned and will conform to Item 4.11. Casters shall conform to NSF Basic Criteria C-2.

4.313 PORTABLE: The unit shall be small enough and light enough to be easily moved by one person and shall comply with the following:

1) Not exceed 75 pounds in weight and have no dimension in excess of three feet in any one plane.

2) Have no utility connection; OR have a connection that can be easily disconnected without tools; OR have a flexible utility connection of sufficient length to permit the unit to be moved for cleaning.

4.314 COUNTER AND TABLE UNITS: Equipment, other than portable, designed to be placed on counters or table shall conform to the provision of 4.313 or be designed to be sealed to the counter or to be mounted on legs of sufficient height provide a clear space, between the lowest horizontal

member of the unit and the counter or table top, equivalent to 1/6 of the maximum depth of the area to be cleaned. Provided however, that in no case shall the leg height be less than 4 inches, nor shall the leg height be required to be in excess of 6 inches.

4.315 LEGS AND FEET--DESIGN AND CONSTRUCTION: Legs and feet shall be of metal of sufficient rigidity to provide support with a minimum of cross-bracing and so fastened to the body of the equipment and so shaped at floor contacts: as to prevent the accumulation of dirt and the harborage of vermin. When the outside dimension of the leg is greater than the outside dimension of the foot by 1/2 inch or more (in the same plane) the foot shall at minimum adjustment, extend 1 inch below the leg. All openings to hollow sections between feet and legs, shall be drip-proof construction (leg overlapping foot, or leg and foot integral) with no opening greater than 1/32 inch. All other openings to hollow sections shall be sealed. Legs and feet shall be simple design, free from embellishments and exposed threads. Gussets, when used, shall be assembled to the equipment in such a manner as to insure easy cleanability, and to eliminate insect harborage. The resultant assembly shall have no recessed areas or spaces.

4.32 KICK PLATES: If kick plates are provided, they will be built so that they can be readily removed or opened and replaced without the use of tools, to permit access to the space beneath the unit for inspection, servicing and cleaning.

4.33 COUNTER STEPS AND PLATFORM: Closed or hollow counter steps or platforms are not acceptable. Foot rests or rails with open space to floor are acceptable.

4.34 OPEN DISPLAY STANDS AND BRACKETS: Open display stands and brackets shall be fabricated as follows:

4.341 DISPLAY STANDS: Open display stands with or without cross rails shall be of solid or tubular construction. All tubing used in stands shall be of welded or seamless type.

4.342 BRACKETS: All brackets shall be of substantial construction and smooth.

4.35 COUNTER TRAY SLIDES: Counter tray slides shall be constructed in accordance with the general requirements of these specifications and may be of tubular or solid construction in accordance with Item 4.30

4.36 SHELVING: All shelving, whether fixed or removable, solid or open type, is to bonstructed and installed so as to be readily cleanable.

4.361 REMOVABLE SHELVES: Removable shelves shall be readily movable and sized to facilitate their handling by one person. Where shelves are used as removable false bottoms, the flanged cornors are to be closed or sufficiently notched open to permit cleaning.

4362 DIVERTING SHELVES: Shelves intended to prevent seepage, or retain splash and/or spillage, shall leave the back and ends turned up a minimum of 1 inch and corners and seams sealed. Where shelf surfaces are exposed to unpackaged foods they shall conform with Item 4.03.

"CORNERS OR ANGLES-INTERIAL."

4.363 INTERIOR FIXED SHELVING: Fixed shelving shall have the back and ends(where against the side panels) turned up a minimum of 1 inch and closed, throughout their length, or an open space of 1 inch provided between the shelf back and/ or side panels, or the resulting joint and seam sealed.

4.364 SHELF BRACKETS AND SLIDES OR CLEATS: When adjustable shelving is provided the shelf support brackets and pilasters, if used, shall be readily removable and easily cleanable. Where refrigerator cases and other similar items are designed for trays or pans, the slides or cleats to support them are to be made integral with the lining, or shall be easily removable for cleaning.

4.37 WASTE AND WATER FITTINGS: Waste and water fittings attached to the equipment, shall comply with the applicable material requirements for the food, splash and non-food zones.

4.371 DRAINS AND OVERFLOWS--SINKS: The use of sink drains which included a removable strainer, with or without remote drainage control, is acceptable. Overflow gutters or drains, between two sink compartments, if provided, shall be approximately 6 inches wide, the top being fitted with a removable strainer plate or basket. Drains shall be a minimum of 1-1/2 inches Iron Pipe Size (I.P.S) except fountain and underbar sinks which shall be not less than 1 inch. I.P.S.

4.372 DRAINS FOR STEAM TABLES AND BAINS-MARIE(WET TYPE): Drains for water pans shall be a minimum of 1 inch I.P.S. with either a valve or an overflow to control the water level.

4.38 WATER INLETS: Water inlets and/or connections shall be installed in soda fountain and luncheonette equipment in compliance with the current edition of the ASA National Plumbing Code (ASA-A40. 8-- 1955).

4.39 PLACEMENT OR DRAINAGE PIPES: All drain connections on equipment shall be so located as to facilitate installation with a minimum of horizontal piping under equipment.

4.40 PIPE CHASES: Pipe chases if provided for vertical gas, stream, electrical, and plumbing lines shall be constructed with removable access panels, wherever possible. Pipe chases shall be of such design as not to harbor vermin.

4.401 ENCLOSED SPACES: Enclosed spaces shall be sealed or provided with readily removable access panels. Such removable panels shall be provided wherever condensation is likely to occur within an enclosed space.

SECTION 5. ITEMS OF SPECIAL SANITARY SIGNIFICANCE

The following items of special sanitary significance shall comply with the applicable provisions of Item 1.00 through 4.34 and in addition shall conform to the following specific provisions.

5.00 FOOD CONTAINERS AND DRAWERS: Food containers and drawers in the food zone shall be of coved construction (4.031 and 4.032) and shall be smooth and welded, or be die-stamped.

5.01 PANS,POTS, AND UTENSILS: Pans, pots and other utensils shall be constructed to comply with the following specfic items:

5.011 Rims of pots and pans shall be easily cleaned. Rolled type beads shall be closed and sealed.

5.012 Handles and handle assembly parts shall be attached one to another and to the pot, pan or utensil, in such a manner as to eliminate inaccessible cleaning areas, recesses and open seams.

5.02 INSETS: All insets or receptacles for unpackaged moist foods and beverages shall be/easily removable and easily cleanable. Such containers shall be of open-mouth type, covered, and conform to the requirements of Item 5.00 and 5.01.

5.03 DRAWERS AND BINS: All drawers, bins, and drawer carriages shall be made readily removable for cleaning. Bins for food ingredients are to be in a totally enclosed space, or when not enclosed, to be provided with a tight-fitting cover. Food ingredient containers, including portable food containers, shall have tight-fitting covers and comply with Items 3.01, 4.03 and 5.00

5.04 SILVER(FLATWARE) DISPENSERS: All containers used for dispensing flat-ware shall be readily removable for cleaning and shall be easily cleaned. They shall be so constructed that flatware can be picked up by the handles only and the other portions of the flat-ware covered and protected from handling.

5.05 DISPLAY CASES: Display cases shall be fabricated in such a manner as to eliminate dust collecting projections or moldings and minimize open joints and sharp corners. Where glass is used, it shall be tight against frame or trim members. Where sliding doors are used to enclose one or more sides of a display case, they shall be readily removabe. Hinged or pivoted-type doors need not be removable when designed so that thorough cleaning may be effected.

5.06 COUNTER GUARDS: Displays of unoackaged foods are to be effectively shielded so as to intercept the direct line between the average customer's mouth and the food being displayed.

5.061 Guards shall be mounted so as to intercept a direct line between the customer's mouth and the food display area, at the customer "use" position. The vertical distance from the average customer's mouth to the floor shall be considered to be 4 feet 6 inches to 5 feet for food service establishments. Special consideration must be given as to the average customer's mouth height in educational institutions and other special installations.

5.062 Such guards are to be fabricated of easy-to-clean, sanitary materials conforming to "MATERIALS" specifications. (Items 3.00 and 3.02).

5.063 Where the edges of glass or other hazardous materials are exposed, they are to be trimmed with a smooth protective member, have a safety edge of parent material or be of a material which does not present a hazard in this connection. For standard or bracket specification: see Item 4.30.

5.07 SELF-LEVELING STORAGE SYSTEMS: Parts of the leveling mechanism, system or device which are not fully protected against dirt, splash, spillage or contact with food shall be easily cleanable.

5.08 ICE CREAM STORAGE COMPARTMENTS: The inside lining of ice cream storage compartments shall be considered Splash Zone. If painted or coated the base material shall conform to the material requirements for the Splash Zone.

5.081 Top openings to ice cream storage compartments shall comply with Item 4.22.

5.082 Drains, if provided, shall be not less than 5/8 inch IPS size.

5.09 CREAMER: The top capping or working surface shall be in one piece, or all seams shall be filled and smooth; and capping shall be sealed to external enclosure. Intersections of vertical sections and the top capping of the syrup rail shall have a minimum inside radius of 1/4".

5.10 BOBTAIL:

5.101 If a sink section is constructed as an integral part of a bobtail, the sink section shall conform to specifications of Item 5.17

5.102 INSIDE LINING (Syrup Rail): Refrigeration system shall not be exposed. Soda, syrup and water lines may be exposed in the syrup rail, but if exposed, shall be so located as to be easily cleanable. Every inside angle shall have a minimum radius of 1/16" and all seams shall be filled and smooth. The bottom shall be sloped to provide complete drainage. The lining of syrup rail shall be considered as a Splash Zone.

5.103 DRAINS (Syrup Rail): Drains from syrup rails shall not be less than 5/8" I.D.

5.11 REFRIGERATED STORAGE COMPARTMENTS: Shall be so designed, constructed and equipped as to maintain the maximum temperatures indicated below when tested in accordance with the provisions of nSf Standard No. 7, provided, however, that Refrigerated Short-Term Display cases shall be exempt from the 70% maximum operating times

Refrigerators $40^{o}F.$

Refrigerated (Short Term) Display Cases-45°F.
Freezers-0°F.

5.111 Refrigerated units having plate shelves may use solder to obtain a 1/16" radius at the top of the interior liner.

5.112 When water bath cooling of water and soda is used the cooling coils shall be accessible for cleaning with brush and there shall be a readily accessible drain cock or plug to facilitate drainage.

5.113 When instantaneous coolers are used, the cooler must be sealed to the floor of the storage compartments or raised off the floor of the compartment at least 1", to allow for cleaning underneath it with a brush.

5.114 Detailed requirements for refrigerated equipment will be found in NSF Standard No. 7 entitled "Food Service Refrigerators and Food Service Storage Freezers." Provided, however, the requirements of Items 4.03, 4.031, 4.032, 4.033 and 4.061 of this Standard shall apply to undercounter equipment.

5.12 DRIP PANS: Shall be drained into the syrup rail or directly into the fountain drainage system.

5.13 SYRUP AND CRUSHED FRUIT CONTAINERS: Shall be of the straight sided type. Every inside angle shall have a minimum radius of 1/4". Covers shall be provided for crushed fruit containers and shall have overlapping flanges.

5.14 ICE PANS: All seams resulting from the joining of material shall be made in such a manner that the finished seam is completely sealed and smooth. Every inside angle shall have a radius of not less than 1/16". Solder may be used to obtain this radius.

5.141 Ice pans shall be so designed and constructed and/or so located as to preclude contamination of the ice therein by users of adjacent drink dispensing facilities. Drains shall not discharge into the ice pan. A suitable cover meeting the requirements of Item 4.21 shall be provided.

5.15 SYRUP PUMPS: The entire pump assembly shall be designed so that it is readily cleanable. This is to include all valves and springs.

5.151 The assembly below the cover shall not have V type threads. Locking devices consisting of threads may be used providing the thread is cleanable and all surfaces of the thread are plainly visible for inspection, and the number of threads is limited to two. Limitations regarding sharp angles shall apply to threads.

5.152 The assembly in the delivery tube shall not have V threads.

5.153 The assembly in the delivery tube shall not have internal threads and shall be so constructed that a cleaning brush can be put in one end and pushed through the opposite end.

5.154 Tubes shall be designed so that a cleaning brush may readily enter one end and come out the opposite end.

5.155 When plugs are used at the ends of tubes, they shall be readily removable for cleaning.

5.156 Top plates of syrup pumps shall have turned down edges, or aprons, built to fit closely over syrup containers.

5.16 CARBONATORS: Carbonator pumps shall comply with the material requirements of Item 3.01 for food contact surfaces. The general design of the pump exterior shall comply with the intent of Item 4.00.

5.161 Carbonator tanks shall comply with the material requirements of Item 3.01 for food contact surfaces. The general design of the tank exterior shall comply with the intent of Item 4.00 or 4.10 depending on location.

5.162 Effective means shall be provided to prevent carbon dioxide or carbonic acid or carbonated water from coming in contact with copper or copper alloy watertubing and devices or service lines.

5.17 SINKS: Sinks or sink bowls including partitions, shall be considered food zone and shall be drawn or welded and polished or otherwise fabricated to conform with Item 4.03. The use of solder or fillet material to obtain the desired radius is not acceptable. The space between the bowls or

compartments of sinks shall be completely filled, the space sealed or a minimum space of 2 inches shall be provided between the bowls or compartments, which shall be open at front bottom and back of sink. Sinks shall be built in accordance with the requirements of this Standard for Materials and Workmanship.

5.171 UTILITY SINKS: Where multi-use eating and drinking utensils are washed in a scullery, kitchen or apart from the fountain, or if such utensils are washed and sanitized in a mechanical dishwasher, one or more sinks (basins) installed at the fountain to provide facilities for general clean-up shall be deemed sufficient.

5.172 FOUNTAIN GLASSWARE SINKS: Where only frozen desserts, milk, soda water and similar fountain products are served, and multi-use utensils are hand washed at the fountain; or if food also is served, and multi-use food utensils are washed and sanitized in a mechanical dishwashing machine, and glassware only is hand washed at the fountain, each sink section shall contain three (3) or more sinks (basins) each with a minimum water capacity of 3 1/2 gallons below the overflow level and with minimum water depth of 6 1/2".

5.173 A hot water sanitizing unit of a size and capacity at least equal to one of the required sinks shall be considered as representing a sink basin.

5.174 FOOD SERVICE SINKS: Where food is served in addition to fountain products, and dishes are hand washed at the fountain, each sink section shall contain three (3) or more sinks (basins), each with a minimum opening dimension of approximately 12", with a minimum water capacity of 5 gallons below the overflow level, and a minimum water depth of 8".

5.175 A hot water sanitizing unit of a size and capacity at least equal to one of the required sinks shall be considered as representing a sink or basin.
NOTE: Further study is being given the problem of bobtail units which do not have sink sections.

5.176 OUTLETS OF SINKS OR BASINS: Where standing waste pipes are provided as overflow outlets, such pipes shall be so placed as to occupy as little space in the sink as possible; and shall be placed near the wall.

5.18 SPLASH BACKS: Where used, shall be sealed watertight to the working surfaces of the section to which attached, and all interior angles shall be smooth and each shall have a minimum radius of 1/8".

5.181 SINKS: There shall be splash backs at the backs of all sink sections and at the ends where sinks fit against the return ends of counters or walls. Splash backs at the back of sink sections, with exception of underbar work board, shall be formed integral with tops or formed separately and integrally welded. Splash backs attached to undercounter work-boards shall conform to Item 5.17.

5.19 DISHTABLES AND DRAINBOARDS*: Dishtables and drainboards shall be drawn or welded to conform with Items 4.031 and 4.032. The use of solder of fillet material to obtain the desired redius is not acceptable. Dishtables and drainboards shall have turned up edges not less than 1/2 inch and a minimum pitch of 1/8 inch per foot. Drainage shall be so directed as to prevent contamination of other areas of the dishtable or drainboard. Dishtables and drainboards shall be supported in such a manner as to prevent sagging, shall be integral with sink and shall, comply with Items 4.08 and 4.21. Corrugation of drainborads shall,

when provided, be not less than 3/32" deep.

5.20 SOUND DAMPING: Dishtables and drainboards when required to be sound dampened shall have such damping materials applied in a manner that no dirt or debris will collect and adhere thereto and the surface will be non-absorbent and easily cleanable and shall comply with Item 3.09.

5.21 DRAINBOARD SPACE*: A physically separated drainboard space shall be provided for clean and soiled utensils.

5.211 DIVIDED DRAINBOARD: A section to be used for clean utensils raised at least 1/2 inch above a section for dirty utensils shall be acceptable.

5.22 AUXILLIARY CLEANING FACILITIES AND ACCESSORIES: Specially designed and fabricated equipment when provided to promote and facilitate utensil and dish cleaning, shall comform to the following specific requirements.

5.221 DUMP SINKS: Sinks used for the disposal of leftover liquids and solids from soiled utensils and/or collecting other debris shall be fitted with removable strainer baskets.

5.222 SCRAPPING BLOCKS: Scrapping blocks shall be made removable. The construction shall be such as to prevent refuse from falling outside the food waste receptacle. If garbage containers are required, the space provided shall be free of structural angles, protruding ledges, crevices and other dirt catchers and the space shall be such as can be readily inspected, cleaned and washed.

*NOTE: Special attention must be given to the adequacy of drainboard space, both soiled and clean, to assure proper safeguards against contamination of clean utensils, breakage due to lack of landing space for soiled utensils, and performance of the planned tasks at the location.

5.223 TABLE SCUPPERS: Table scuppers shall be across the entire flat section of the table to prevent soiled water and debris from draining into the wash tank of dishwashing machine or other compartments. Two types may be used, namely standard plumbing drains with strainers, or fabricated troughs with removable strainer baskets.

5.224 TABLES SCUPPERS AND DUMP SINKS: Table scuppers and dump sinks shall be drawn or welded and polished to conform with Items 4.031 and 4.032.

5.23 TOPS OF COUNTERS, TABLES, AND BACK BARS: Tops, if exposed, shall be in one piece, or all seams shall be welded, ground and made smooth, provided that field joints shall comply with Item 4.21.

5.24. TOPS OF STEAMTABLES WITH WATER PANS AND TABLES WITH COLD PANS: To facilitate easy cleaning of interiors, where practical steamtable tops and the tops of tables with cold pans shall be removable. Where such tops are not made removable, they shall have openings of a size and location that will permit complete access for cleaning the entire interior through such openings.

5.25 URN STANDS: Urn stands shall have built-in pitched troughs equiped with a non-splash removable drain plate, beneath dispensing faucets. Said trough shall be provided with a 1 inch I.P.S. drain connection, or removable drain cup. Edges of punched slots and openings shall be made smooth. Wherever necessary to prevent overflow onto the floor or other units, edges shall be raised as required in Item 4.22.

5.26 WATER STATIONS: Water stations shall be constructed in accordance with Item 5.24 except that removable cups are not satisfactory. The waste lines from such stations shall not drain into the food zone.

5.27 DIPPER WELLS: All wells for ice cream or other dippers shall be equipped with running water. There shall be no rough or open seams. The top dimensions of the well shall not be less than 4 inches by 4 inches and every interior angle shall have a radius of not less than 1/8 inch. Separating partitions of dipper wells shall be readily removable for cleaning. Any overflow standpipe shall be readily accessible for brushing and cleaning. Interior surfaces of the dipper well shall be considered food contact surface.

5.271 WATER PIPES: Water pipes shall comply with the provisions of the National Plumbing Code ASA A40.8-1955 which states: The air gap in a water supply system is the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank or plumbing fixture and the flood level rim of receptacle- - the minimum required air gap shall be twice the diameter of the effective opening, but not lett than 1 inch.

5.28 DRIP PANS: Drip pans for kettles and steamers and similar equipment shall be depressed and sealed. Bottoms of such pans shall be pitched to drains with removable strainers. Raised blocks, when provided, shall be made of metal identical to the drip pan and shall be continuously welded thereto to prevent seepage under the drip pan. All such blocks shall be of a height equal to that of the drip pan. Any holes drilled into the blocks shall be made water-tight. Drip pans shall be constructed in accordance with the requirements of Item 4.03.

5.29 CANOPIES OR HOODS: All canopies and hoods shall have smooth inner surfaces that are smooth and easily cleanable. Where reinforcing must be on the interior, it shall be smooth, easily cleaned and so used that it will not act as a dam or create a surface on which grease or condensate will collect and drip. Gutters, when provided, shall be smooth, easily cleanable and fitted with a drain or clean-out opening.

5.281 CURTAIN TYPE: The interior of the hood shall be in accordance with Item 4.11.

5.292 OPEN TYPE HOODS: Hoods shall have smooth, easily cleanable interiors. Where gutters are built into bottom edges, they shall be of a size and design to make cleaning easy.

5.293 PLENUM TYPE HOODS-WITH FILTERS: Where filters are used in hoods, they shall be easily removable and so installed as to prevent drippage into food.

5.294 PLENUM TYPE HOODS-WITHOUT FILTERS: Where baffles, turning vanes, and sliding dampers are used for the purpose of controlling air volume, they shall be easily accessible or removable and easily cleanable.

5.30 CUTTING BOARDS: All cutting boards used on soda fountain and luncheonette equipment shall be of such size as to be portable and shall be readily removable for cleaning. Wood cutting boards shall in addition, conform to the following requirements:

5.301 LAMINATION: Size shall be 1 7/8 inch maximum on edge grain.

5.302 MACHINING: Machining of surfaces shall bo to .001 inch and bonded within a period of time to assure this tolerance.

5.303 BONDING: Surfaces to be bonded shall be in intimate contact at controlled pressures ranging from 150 p.s.i. minimum to 250 p.s.i. maximum.

5.304 REINFORCEMENT: All edge grained laminated surfaces shall be reinforced with steel bolts set at a maximum distance of 30 inch center to center and 4 inches from the end with bolt heads drawn tight on steel washers and counter sunk in the outer edge laminates. Outer edge laminates to be thick enough to hold countersink and then be covered with flush wood rosettes using adhesive and force fit. Tops and boards under 1 3/4 inches in thickness and/or under 48 inches in length and/or under 18 inches in width, do not require bolt reinforcement. Minimum bolt diameter 3/8 inch.

5.305 FINISHING-MACHINING: Top, edge and end surfaces shall

be planed and sanded smooth to a .010 inch tolerance with no checks, open knots, open lamination joints or other open defects. All cutting surfaces shall be treated to effect sealing.

5.31 WHEELED EQUIPMENT: Wheeled equipment shall be constructed to comply with applicable Items of Sections 1, 2, 3 and 4 in addition the following specific items:

5.311 PAN WELLS: In all food carts, wells for pans shall be constructed with coved corners to facilitate cleaning and shall meet the construction requirements of Items 4.031 and 4.032.

5.312 CLEANING (AUTOMATIC): When equipment is to be subjected to automatic cleaning methods, horizontal projections and other obstacles which prevent self-draining shall be eliminated. Manufacturer's recommendations for cleaning and maintenance shall be provided.

5.313 DRAINS: Wheeled equipment shall not be required to have drains; however, if provided, they shall comply with the applicable requirements therefor.

END